

1 602 196

- (21) Application No. 36585/77
 (22) Filed 1 Sep 1977
 (23) Complete Specification Filed 25 May 1978
 (24) Complete Specification Published 11 Nov 1981
 (51) INT. CL.³ F23D 13/18
 (52) Index At Acceptance B1F D2A
 (72) Inventor: John Richard Howard Righton



(54) IMPROVEMENTS IN OR RELATING TO CATALYTIC HEATERS

(71) We, METAL PRESSINGS LIMITED, a British Company, of Oare Road, Faversham, Kent ME13 7TN, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to catalytic heaters particularly those for use with a commercially obtainable cylinder filled with compressed gas and having a control valve associated therewith.

The invention consists in a catalytic heater assembly unit for fitting to a gas-cylinder having a control valve associated therewith, said unit comprising two support members substantially cylindrical arranged, in operation, in a generally vertical disposition and separated by a radial gap for location of a catalytic pad therebetween and a pair of upper and lower end plates gripping said support members between them, and wherein a jet is fitted to one of said plates for association with the control valve of the gas-cylinder, and directed towards the interior of the innermost cylinder.

Preferably and advantageously the support members are made from stout wire mesh material and the two end plates are secured together by a stabilizing bracket which may be in the form of U-shaped strip.

In order that the invention may be more clearly understood, reference will now be made to the accompanying drawings which show one embodiment thereof by way of example and in which:—

Figure 1 shows an outside view of the heater as fitted to a commercially available gas cartridge.

Figure 2 shows a longitudinal section along the line A-A of Figure 1.

Figure 3 shows a plan view of the heater with the upper end cap removed and

Figure 4 shows an enlarged view of the lower part of the heater assembly shown in Figure 2 in half-section, with certain parts dissociated for a clearer showing.

Referring now to the drawings, the heater comprises a pair of radially-spaced cylindrical stout wire mesh members 1 and 2 arranged in a generally vertical disposition, between which is arranged a catalytic pad 3 of suitable material known in the art.

Upper and lower end plates 4 and 5 complete the exterior assembly and are secured together to grip the wire mesh members by a stabilizing bracket 6 of U-shaped metal strip the bottom flanges of which are welded to the bottom end plate at 7 and 8 and the top of which is secured by a screw 9 to the upper end plate.

In the bottom end plate is provided a gas jet assembly directed towards the interior of the innermost cylinder, which assembly comprises a restrictor jet 10 screwed into an inner adaptor 11 which is itself screwed into an outer adaptor 12 which is provided with an externally screw-threaded duct 13 for fitting into the gas cartridge 14 as shown in Figure 1. An O-ring seal 15 is fitted to the outer adaptor as shown so that when the assembly is screwed on to the gas cartridge it will be compressed to form a seal.

The gas cartridge 14 forms no part of the invention *per se* and is a commercially obtainable product ready fitted with a control valve 16.

Figure 4 shows an enlarged view of the lower part of the heater assembly with members 10, 11 and 12 separated from the bottom end plate 4.

The heater according to the invention can be arranged to deliver any heat energy by suitably dimensioning the unit.

WHAT WE CLAIM IS:—

1. A catalytic heater assembly unit for fitting to a gas-cylinder having a control valve associated therewith, said unit comprising two substantially cylindrical support members arranged, on operation, in a generally vertical disposition and separated by a radial gap for location of a catalytic pad therebetween, and a pair of upper and lower end plates gripping said support members between them, and wherein a jet is fitted to one of said plates for association with the control valve of the gas-cylinder, and directed towards the interior of the innermost cylinder.

2. A heater as claimed in Claim 1, wherein an adaptor is mounted on said one end plate to act as a connector between the jet and the control valve.

3. A heater as claimed in Claim 2, wherein the adaptor is in two parts the first of which is located externally of said one plate member

and the second of which passes through an aperture in the end plate and fits into the first part of the adaptor, the jet being in the form of a restrictor jet which fits into the second part of the adaptor.

5

4. A heater as claimed in Claim 1, 2 or 3, wherein the support members are made from stout wire mesh material and the two end plates are secured together by a stabilizing bracket.

10

5. A heater as claimed in Claim 4, wherein

the stabilizing bracket is in the form of a U-shaped strip.

6. A catalytic heater substantially as hereinbefore described with reference to the accompanying drawings.

15

BARON & WARREN
16 Kensington Square
London W8 5HL
Chartered Patent Agents

20

Printed for Her Majesty's Stationery Office by MULTIPLEX medway ltd., Maidstone, Kent, ME14 1JS. 1981. Published at the Patent Office, 25 Southampton Buildings, London WC2 1AY, from which copies may be obtained.

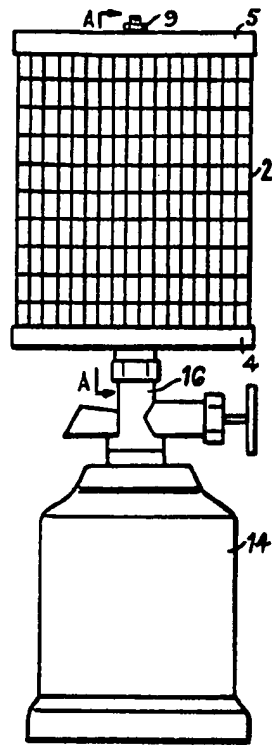


Fig.1

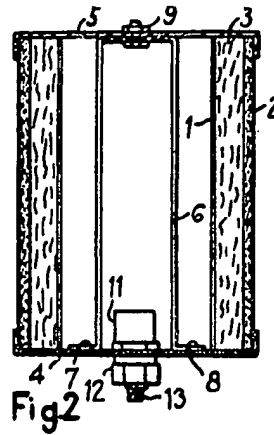


Fig.2

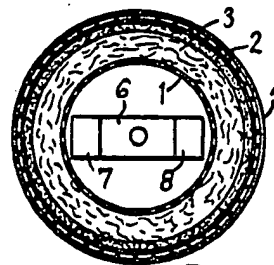


Fig.3

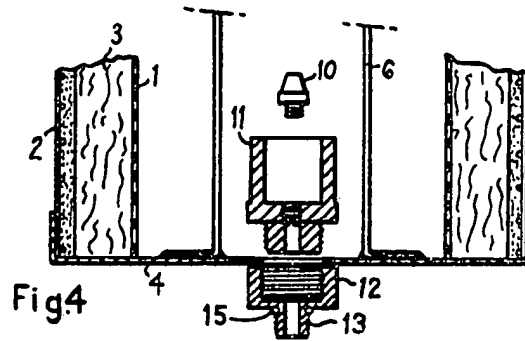


Fig.4